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BLACK ROT OF ORANGES

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Black rot of oranges begins at the blossom end of the fruit. The first sign of the disease is the highly colored fruit, which ripens considerably before the main crop. At this time there will also be noticed a small brown spot at the blossom end of the fruit. If the rind is removed, underneath the brown spot the tissue is brown, or, in a more advanced stage, greenish to black. The blackening may extend thru the central rag, including the core. In some cases there is no visible sign on the outside that black rot is present. In such a case a picker or grader is going to let the fruit go thru to market and the disease will develop in transit and storage. When the disease has reached the advanced stage of decay a large dark green to black spot makes its appearance at the blossom end. At this time the core and rag are black and the fruit cells are beginning to break down. This condition exists in the field and also develops on the way to market.

CAUSE OF BLACK ROT

Black rot is a disease caused by a fungus known as *Alternaria citri*. This fungus was first described by N. B. Pierce in 1902 on California Navel oranges. Later this was described as causing a dropping of fruit in Arizona.

At the blossom end of citrus fruit there is a small opening which gives a ready entrance to the fungus. Weather conditions also must influence this disease. Therefore, since we have so much of the disease present this year, we might assume that last summer was favorable for the development of black rot.

DISTRIBUTION

Letters and specimens have been received from all sections of the state, complaining of this disease, which this year is general. Each year there is a small amount of the disease present, but so little that the grower does not know it exists. For some unexplained reason this disease makes its appearance and causes considerable damage at different times. In 1911 Prof. Fawcett recorded the occurrence of black rot as doing considerable damage. Since then the disease has caused no alarm until this season.

It was formerly thought that the Navel orange was the only variety attacked. In 1911 it was found on Pineapple and Ruby Blood. This year (1922) it has been reported as occurring on Ruby Blood, Parson Brown, Pineapple, Jaffa, Tangerine and Valencia. Our investigations were made during the middle of November, 1922. The infection varied from 5 to 25 percent. One grove of Jaffa oranges was visited where a drop of 25 percent was caused by black rot. There is no doubt but that a larger percentage will finally show the disease. A considerable number, no doubt, will go thru the packing house and will not show the disease until the fruit arrives on the market.

SUGGESTIONS FOR CONTROL

It is well to pick up all infected oranges and bury them. The blackened area soon becomes covered with spores which are easily scattered by the wind.

In the case of Valencia or other late orange showing the decay at this time, we advise spraying with a 3-3-50 bordeaux oil. We believe that coating the fruit at the blossom end with the spray will prevent the disease.

Packing-house managers should see that none of the blackened oranges goes into the wash water or remains on the floor of the packing house. If the variety affected is mature the crop should be shipped as soon as possible, for the longer it hangs on the trees the greater may be the decay.

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